

SEQUENCE LISTING

- <110> Shimkets, Richard A.
 Fernandes, Elma R.
 Li, Li
 Gorman, Linda
 Gusev, Vladimir Y.
 Padigaru, Muralidhara
 Patturajan, Meera
 Shenoy, Suresh G.
 Spytek, Kimberly A.
- <120> Polypeptides and Polynucleotides Encoding Same
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 - <141> 2002-02-13
 - <150> 09/619,252
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 - <150> 60/167,785
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- <1-50> 60/276,-994 -
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- <150> 60/280,898
- <151> 2001-04-02
- <150> 60/332,241
- <151> 2001-11-14
- <150> 60/288,062
- <151> 2001-05-02
- <150> 60/291,766
- <151> 2001-05-17
- <150> 60/314,007
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His Lys Glu Leu Tyr Asp Trp Arg Leu Gly Pro Trp Asn Gln Cys Gln 50 55 60

Pro Val Ile Ser Lys Ser Leu Glu Lys Pro Leu Glu Cys Ile Lys Gly 65 70 75 80

Glu Glu Gly Ile Gln Val Arg Glu Ile Ala Cys Ile Gln Lys Asp Lys 85 90 95

Asp Ile Pro Ala Glu Asp Ile Ile Cys Glu Tyr Phe Glu Pro Lys Pro 100 105 110

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Leu Gln His Arg Thr Arg His Val Val Ala Pro Pro Gln Phe Gly Gly 145 150 155 160

Ser Gly Cys Pro Asn Leu Thr Glu Phe Gln Val Cys Gln Ser Ser Pro 165 170 175

Cys Glu Ala Glu Glu Leu Arg Tyr Ser Leu His Val Gly Pro Trp Ser 180 185 190

Thr Cys Ser Met Pro His Ser Arg Gln Val Arg Gln Ala Arg Arg Arg 195 200 205

Gly Lys Asn Lys Glu Arg Glu Lys Asp Arg Ser Lys Gly Val Lys Asp 210 215 220

Pro Glu Ala Arg Glu Leu Ile Lys Lys Lys Arg Asn Arg Asn Arg Gln 225 230 235 240

Asn Arg Gln Glu Asn Lys Tyr Trp Asp Ile Gln Ile Gly Tyr Gln Thr 245 250 255

Arg Glu Val Met Cys Ile Asn Lys Thr Gly Lys Ala Ala Asp Leu Ser 260 265 270

Phe Cys Gln Gln Glu Lys Leu Pro Met Thr Phe Gln Ser Cys Val Ile

Pro Cys Ser

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Phe Glu Glu Lys Glu Pro Cys Leu Ser Gln Gly Asp Gly Val Val Pro 340 345 350

Cys Ala Thr Tyr Gly Trp Arg Thr Thr Glu Trp Thr Glu Cys Arg Val 355 360 365

Asp Pro Leu Leu Ser Gln Gln Asp Lys Arg Arg Gly Asn Gln Thr Ala 370 375 380

Leu Cys Gly Gly Gly Ile Gln Thr Arg Glu Val Tyr Cys Val Gln Ala 385 390 395 400

Asn Glu Asn Leu Leu Ser Gln Leu Ser Thr His Lys Asn Lys Glu Ala 405 410 415

Ser Lys Pro Met Asp Leu Lys Leu Cys Thr Gly Pro Ile Pro Asn Thr 420 425 430

Thr Gln Leu Cys His Ile Pro Cys Pro Thr Glu Cys Glu Val Ser Pro 435 440 445

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Gly Asp Cys Glu Pro Asp Asn Gly Lys Glu Cys Gly Pro Gly Thr Gln 515 520 525

Val Gln Glu Val Val Cys Ile Asn Ser Asp Gly Glu Glu Val Asp Arg 530 540

Gln Leu Cys Arg Asp Ala Ile Phe Pro Ile Pro Val Ala Cys Asp Ala 545 550 555 560

Pro Cys Pro Lys Asp Cys Val Leu Ser Thr Trp Ser Thr Trp Ser Ser 575

Cys Ser His Thr Cys Ser Gly Lys Thr Thr Glu Gly Lys Gln Ile Arg

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Cys Thr Val Tyr His Trp Gln Thr Gly Pro Trp Gly Gln Cys Ile Glu 625 630 635 640

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Ala Ser Cys Ser Val Gly Met Gln Thr Arg Lys Val Ile Cys Val Arg
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Val Asn Val Gly Gln Val Gly Pro Lys Lys Cys Pro Glu Ser Leu Arg 675 680 685

Pro Glu Thr Val Arg Pro Cys Leu Leu Pro Cys Lys Lys Asp Cys Ile 690 695 700

Val Thr Pro Tyr Ser Asp Trp Thr Ser Cys Pro Ser Ser Cys Lys Glu 705 710 715 720

Gly Asp Ser Ser Ile Arg Lys Gln Ser Arg His Arg Val Ile Ile Gln 725 730 735

Leu Pro Ala Asn Gly Gly Arg Asp Cys Thr Asp Pro Leu Tyr Glu Glu 740 745 750

Lys Ala Cys Glu Ala Pro Gln Ala Cys Gln Ser Tyr Arg Trp Lys Thr
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His Lys Trp Arg Arg Cys Gln Leu Val Pro Trp Ser Val Gln Gln Asp
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Ser Pro Gly Ala Gln Glu Gly Cys Gly Pro Gly Arg Gln Ala Arg Ala 785 790 795 800

Ile Thr Cys Arg Lys Gln Asp Gly Gln Ala Gly Ile His Glu Cys 805 810 815

Leu Gln Tyr Ala Gly Pro Val Pro Ala Leu Thr Gln Ala Cys Gln Ile 820 825 830

Pro Cys Gln Asp Asp Cys Gln Leu Thr Ser Trp Ser Lys Phe Ser Ser 835 840 845

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Gly Lys Ser Lys Lys Lys Glu Lys Cys Lys Asn Ser His Leu Tyr Pro 865 870 875 880

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Cys Asn Gln Tyr Leu Trp Val Thr Glu Pro Trp Ser Ile Cys Lys Val 1025 1030 1035 1040

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Lys Val Arg Cys Met Gln Asn Thr Ala Asp Gly Pro Ser Glu His Val 1060 1065 1070

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Cys Lys Leu Pro Cys Pro Glu Asp Cys Val Ile Ser Glu Trp Gly Pro 1090 1095 1100

Trp Thr Gln Cys Val Leu Pro Cys Asn Gln Ser Ser Phe Arg Gln Arg 1105 1110 1115 1120

Ser Ala Asp Pro Ile Arg Gln Pro Ala Asp Glu Gly Arg Ser Cys Pro 1125 1130 1135

Asn Ala Val Glu Lys Glu Pro Cys Asn Leu Asn Lys Asn Cys Tyr His 1140 1145 1150

Tyr Asp Tyr Asn Val Thr Asp Trp Ser Thr Cys Gln Leu Ser Glu Lys 1155 1160 1165

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Ser Asp Gly Lys Ser Val Asp Leu Lys Tyr Cys Glu Ala Leu Gly Leu

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Cys Gly Leu Thr Gly Lys Met Ile Arg Arg Arg Thr Val Thr Gln Pro . 1235 1240 1245

Phe Gln Gly Asp Gly Arg Pro Cys Pro Ser Leu Met Asp Gln Ser Lys 1250 1260

Pro Cys Pro Val Lys Pro Cys Tyr Arg Trp Gln Tyr Gly Gln Trp Ser 1265 1270 1275 1280

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Asn Lys Asn Met Val Leu Glu Glu Ser Cys Ser Gln Pro Cys Pro Gly 1330 1340

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Met His Gln Gly Gln Leu Ala Cys Gly Gly Ala Leu Val Ser Glu Glu 35 40 45

Ala Val Leu Thr Ala Ala His Cys Phe Asn Gly Arg Gln Ala Pro Glu 50 55 60

Glu Trp Ser Val Gly Leu Gly Thr Arg Pro Glu Glu Trp Gly Leu Lys
65 70 75 80

Gln Leu Ile Leu His Gly Ala Tyr Thr His Pro Glu Gly Gly Tyr Asp 85 90 95

Met Ala Leu Leu Leu Leu Gly Ala Ser Leu 100 105 110

Arg Ala Leu Cys Leu Pro Tyr Phe Asp His His Leu Pro Asp Gly Glu 115 120 125

Arg Gly Trp Val Leu Gly Arg Ala Arg Pro Gly Ala Gly Ile Ser Ser 130 135 140

Leu Gln Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg 145 150 155 160

Leu His Ala Ala Pro Gly Gly Asp Gly Ser Pro Ile Leu Pro Gly Met
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Val Cys Thr Ser Ala Val Gly Glu Leu Pro Ser Cys Glu Gly Leu Ser 180 185 190

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- Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln Ser Gln Phe Gly 130 135 140
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Gln Val His Thr Glu Phe Thr Leu Arg Asn Phe Asn Ser Ala Lys Asp 705 710 715 720

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- Gly Lys Thr Cys Arg Arg Lys Asp Val Cys Gln Ala Ile Asp His Gly 565 \cdot 570 575
- Cys Glu His Ile Cys Val Asn Ser Asp Asp Ser Tyr Thr Cys Glu Cys 580 585 590
- Leu Glu Gly Phe Arg Leu Thr Glu Asp Gly Lys Arg Cys Arg Ile Ser 595 600 605
- Ser Gly Lys Asp Val Cys Lys Ser Thr His His Gly Cys Glu His Ile 610 615 620
- Cys Val Asn Asn Gly Asn Ser Tyr Ile Cys Lys Cys Ser Glu Gly Phe 625 630 635 640
- Val Leu Ala Glu Asp Gly Arg Arg Cys Lys Lys Cys Thr Glu Gly Pro 645 650 655
- Ile Asp Leu Val Phe Val Ile Asp Gly Ser Lys Ser Leu Gly Glu Glu 660 665 670
- Asn Phe Glu Val Val Lys Gln Phe Val Thr Gly Ile Ile Asp Ser Leu 675 680 685
- Thr Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu Gln Tyr Ser Thr 690 695 700
- Gln Val His Thr Glu Phe Thr Leu Arg Asn Phe Asn Ser Ala Lys Asp 705 710 715 720
- Met Lys Lys Ala Val Ala His Met Lys Tyr Met Gly Lys Gly Ser Met 725 730 735
- Thr Gly Leu Ala Leu Lys His Met Phe Glu Arg Ser Phe Thr Gln Gly 740 745 750
- Glu Gly Ala Arg Pro Phe Ser Thr Arg Val Pro Arg Ala Ala Ile Val 755 760 765
- Phe Thr Asp Gly Arg Ala Gln Asp Asp Val Ser Glu Trp Ala Ser Lys
 770 775 780
- Ala Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly Val Gly Lys Ala 785 790 795 800
- Ile Glu Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro Thr Asn Lys His 805 810 815
- Leu Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu Ile Ser Glu Lys 820 825 830

967

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Phe Thr Leu Glu His Gly Glu Phe Glu Asp Gly Lys Gly Lys Cys Pro 145 150 155 160

Tyr Asp Pro Ala Lys Gly His Ala Gly Leu Leu Val Asp Gly Glu Leu 165 170 175

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Ser Gln Trp Val Leu Thr Val Ala His Cys Leu Ile Trp Arg Asp Val

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145

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- Thr Ala Ser Asp Val Pro Val Leu Gln Val Ile Met His Ser Arg Tyr
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- Arg Ala Gln Arg Phe Trp Ser Trp Val Gly Gln Ala Asn Asp Ile Gly
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- Leu Leu Lys Leu Lys Gln Glu Leu Lys Tyr Ser Asn Tyr Val Arg Pro 210 215 220
- Ile Cys Leu Pro Gly Thr Asp Tyr Val Leu Lys Asp His Ser Arg Cys 225 230 235 240
- Thr Val Thr Gly Trp Gly Leu Ser Lys Ala Asp Gly Met Trp Pro Gln 245 250 255
- Phe Arg Thr Ile Gln Glu Lys Glu Val Ile Ile Leu Asn Asn Lys Glu 260 265 270
- Cys Asp Asn Phe Tyr His Asn Phe Thr Lys Ile Pro Thr Leu Val Gln 275 280 285
- Ile Ile Lys Ser Gln Met Met Cys Ala Glu Asp Thr His Arg Glu Lys 290 295 300
- Phē Cỹs Týr Glữ Leu Thr Gly Glu Pro Leu Val Cys Ser Met Glu Gly 305 310 315 320
- Thr Trp Tyr Leu Val Gly Leu Val Ser Trp Gly Ala Gly Cys Gln Lys 325 330 335
- Ser Glu Ala Pro Pro Ile Tyr Leu Gln Val Ser Ser Tyr Gln His Trp 340 345 350
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Leu Gln Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg

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160

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His Thr Gly Thr Val Glu Phe Lys Glu Phe Leu Val Leu Val Phe Lys 65 70 75 80

Val Ala Gln Ala Cys Phe Lys Thr Leu Ser Glu Ser Ala Glu Gly Ala 85 90 95

Cys Gly Ser Gln Glu Ser Gly Ser Leu His Ser Gly Ala Ser Gln Glu 100 105 110

Leu Gly Glu Gly Gln Arg Ser Gly Thr Glu Val Gly Arg Ala Gly Lys 115 120 125

Gly Gln His Tyr Glu Gly Ser Ser His Arg Gln Ser Gln Gln Gly Ser 130 135 140

Arg Gly Gln Asn Arg Pro Gly Val Gln Thr Gln Gly Gln Ala Thr Gly 145 150 155 160

Ser Ala Trp Val Ser Ser Tyr Asp Arg Gln Ala Glu Ser Gln Ser Gln 165 170 175

Glu Arg Ile Ser Pro Gln Ile Gln Leu Ser Gly Gln Thr Glu Gln Thr 180 185 190

Gln Lys Ala Gly Glu Gly Lys Arg Asn Gln Thr Thr Glu Met Arg Pro 195 200 205

Glu Arg Gln Pro Gln Thr Arg Glu Gln Asp Arg Ala His Gln Thr Gly 210 215 220

Glu Thr Val Thr Gly Ser Gly Thr Gln Thr Gln Ala Gly Ala Thr Gln 225 230 235 240

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Gln Gly Arg Ser Gln Thr Ser Gln Ala Val Thr Gly Gly His Thr Gln 275 280 285 .

Ile Gln Ala Gly Ser His Thr Glu Thr Val Glu Gln Asp Arg Ser Gln 290 295 300

Thr Val Ser His Gly Gly Ala Arg Glu Gln Gly Gln Thr Gln Thr Gln 305 310 315 320

Pro Gly Ser Gly Gln Arg Trp Met Gln Val Ser Asn Pro Glu Ala Gly

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Met His Gln Gly Gln Leu Ala Cys Gly Gly Ala Leu Val Ser Glu Glu 35 40 45

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Glu Trp Ser Val Gly Leu Gly Thr Arg Pro Glu Glu Trp Gly Leu Lys
Gln Leu Ile Leu His Gly Ala Tyr Thr His Pro Glu Gly Gly Tyr Asp
Met Ala Leu Leu Leu Leu Ala Gln Pro Val Thr Leu Gly Ala Ser Leu
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Arg Pro Leu Cys Leu Pro Tyr Ala Asp His His Leu Pro Asp Gly Glu
                            120
                                                125
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Arg Gly Trp Val Leu Gly Arg Ala Arg Pro Gly Ala Gly Ile Ser Ser
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Leu Gln Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg
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Leu His Ala Ala Pro Gly Gly Asp Gly Ser Pro Ile Leu Pro Gly Met
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Val Cys Thr Ser Ala Val Gly Glu Leu Pro Ser Cys Glu Ala Asn Gln
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Gly Glu Trp Pro Trp Gln Ala Ser Val Arg Arg Gln Gly Ala His Ile
Cys Ser Gly Ser Leu Val Ala Asp Thr Trp Val Leu Thr Ala Ala His
Cys Phe Glu Lys Ala Ala Ala Thr Glu Leu Asn Ser Cys Val Arg Asp
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Ser Ala Pro Gly Ala Glu Glu Val Gly Val Ala Ala Leu Gln Leu Pro
Arg Ala Tyr Asn His Tyr Ser Gln Gly Ser Asp Leu Ala Leu Leu Gln
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Leu Ala His Pro Thr Thr His Thr Pro Leu Cys Leu Pro Gln Pro Ala
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His Arg Phe Pro Phe Gly Ala Ser Cys Trp Ala Thr Gly Trp Asp Gln
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Asp Thr Ser Asp Ala Pro Gly Thr Leu Arg Asn Leu Arg Leu Arg Leu
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- His Leu Ser Asn Pro Ala Arg Pro Gly Met Leu Cys Gly Gly Pro Gln 210 215 220
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- Cys Leu Glu Pro Asp Gly His Trp Val Gln Ala Gly Ile Ile Ser Phe 245 250 255
- Ala Ser Ser Cys Ala Gln Glu Asp Ala Pro Val Leu Leu Thr Asn Thr 260 265 270
- Ala Ala His Ser Ser Trp Leu Gln Ala Arg Val Gln Gly Ala Ala Phe 275 280 285
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- Val Ala Cys Gly Ser Leu Arg Thr Ala Gly Pro Gln Ala Gly Ala Pro 305 310 315 320
- Ser Pro Trp Pro Trp Glu Ala Arg Leu Met His Gln Gly Gln Leu Ala 325 330335
- Cys Gly Gly Ala Leu Val Ser Glu Glu Ala Val Leu Thr Ala Ala His
- Cys Phe Ile Gly Arg Gln Ala Pro Glu Glu Trp Ser Val Gly Leu Gly 355 360 365
- Thr Arg Pro Glu Glu Trp Gly Leu Lys Gln Leu Ile Leu His Gly Ala 370 375 380
- Tyr Thr His Pro Glu Gly Gly Tyr Asp Met Ala Leu Leu Leu Leu Ala 385 390 395 400
- Gln Pro Val Thr Leu Gly Ala Ser Leu Arg Pro Leu Cys Leu Pro Tyr 405 410 415
- Ala Asp His His Leu Pro Asp Gly Glu Arg Gly Trp Val Leu Gly Arg 420 425 430
- Ala Arg Pro Gly Ala Gly Ile Ser Ser Leu Gln Thr Val Pro Val Thr 435 440 445
- Leu Leu Gly Pro Arg Ala Cys Ser Arg Leu His Ala Ala Pro Gly Gly 450 455 460
- Asp Gly Ser Pro Ile Leu Pro Gly Met Val Cys Thr Ser Ala Val Gly 465 470 475 480
- Glu Leu Pro Ser Cys Glu Ala As
n Gln Pro Ala Ala Asp Arg Gly Pro 485 490 495

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Arg Val Gln Gly Ala Ala Phe Leu Ala Gln Ser Pro Glu Thr Pro Glu

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Glu 145	Trp	Ser	Val	Gly	Leu 150	Gly	Thr	Arg	Pro	Glu 155	Glu	Trp	Gly	Leu	Lys 160
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Leu	His	Ala	Ala	Pro 245	Gly	Gly	Asp	Gly	Ser 250	Pro	Ile	Leu	Pro	Gly 255	Met
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Cys Pro Ser Ser Arg Pro Arg Leu Leu Trp Gln Thr Pro Thr Thr Gln
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Lys Val Asp Pro Tyr Arg Ser Cys Gly Phe Ser Tyr Glu Gln Asp Pro
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Ser Val Arg Ala Asn Gly Thr His Ile Cys Ala Gly Thr Ile Ile Ala
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Ile Tyr Ser Val Arg Val Gly Ser Pro Trp Ile Asp Gln Met Thr Gln
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Ile 225	Cys	Leu	Pro	Gly	Thr 230	Asp	Tyr	Val	Leu	Lys 235	Asp	His	Ser	Arg	Cys 240	
Thr	Val	Thr	Gly	Trp 245	Gly	Leu	Ser	Lys	Ala 250	Asp	Gly	Met	Trp	Pro 255	Gln	
Phe	Arg	Thr	Ile 260	Gln	Glu	Lys	Glu	Val 265	Ile	Ile	Leu	Asn	Asn 270	Lys	Glu	
Cys	Asp	Asn 275	Phe	Tyr	His	Asn	Phe 280	Thr	Lys	Ile	Pro	Thr 285	Leu	. Val	Gln	
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Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu Lys Ala Gln
Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln Gln Gln Arg
His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln Ser Gln Phe
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Gly Leu Leu Asp His Lys His Leu Asp His Glu Val Ala Lys Pro Ala
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Asn Val Ser Arg Leu His Arg Gly Trp Trp Phe Gly Thr Cys Ser His
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75

70

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- Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu Lys Ala Gln 100 105 110
- Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln Gln Gln Arg 115 120 125
- His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln Ser Gln Phe 130 135 140
- Arg Arg Lys Arg Leu Pro Glu Met Ala Gln Pro Val Asp Pro Ala His
- Asn Val Ser Arg Leu His His Gly Gly Trp Thr Val Ile Gln Arg Arg 180 185 190
- His Asp Gly Ser Val Asp Phe Asn Arg Pro Trp Glu Ala Tyr Lys Ala 195 200 205
- Gly Phe Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys Val 210 215 220
- His Ser Ile Met Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu Arg 225 230 235 240
- Asp Trp Asp Gly Asn Ala Glu Leu Leu Gln Phe Ser Val His Leu Gly 245 250 255
- Gly Glu Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala Gly 260 265 270
- Gln Leu Gly Ala Thr Thr Val Pro Pro Ser Gly Leu Ser Val Pro Phe 275 280 285
- Ser Thr Trp Asp Gln Asp His Asp Leu Arg Arg Asp Lys Asn Cys Ala 290 295 300
- Lys Ser Leu Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn 305 310 315 320
- Leu Asn Gly Gln Tyr Phe Arg Ser Ile Pro Gln Gln Arg Gln Lys Leu 325 330 335
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Gly Phe Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys Val 210 215 220

His Ser Ile Thr Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu Arg 225 230 235 240

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Ser Pro Leu Thr Pro Ala Gly Gly Trp Trp Phe Gly Thr Cys Ser His 325 330 335

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Gly Glu Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala Gly 260 265 270

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Val Leu Gly Ser Leu Gln Arg Glu Gly Leu Ser Pro Gly Ala Glu Glu
Val Gly Val Ala Ala Leu Gln Leu Pro Arg Ala Tyr Asn His Tyr Ser
Gln Gly Ser Asp Leu Ala Leu Leu Gln Leu Ala His Pro Thr Thr His
Thr Pro Leu Cys Leu Pro Gln Pro Ala His Arg Phe Pro Phe Gly Ala
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Asp	Ala 210	Pro	Val	Leu	Leu	Thr 215	Asn	Thr	Ala	Ala	His 220	Ser	Ser	Trp	Leu
Gln 225	Ala	Arg	Val	Gln	Gly 230	Ala	Ala	Phe	Leu	Ala 235	Gln	Ser	Pro	Glu	Thr 240
Pro	Glu	Met	Ser	Asp 245		Asp	Ser	Cys	Val 250	Ala	Cys	Gly	Ser	Leu 255	Arg
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Ser	Arg	Leu	His	Ala 405	Ala	Pro	Gly	Gly	Asp 410	Gly	Ser	Pro	Ile	Leu 415	Pro
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Glu Trp Pro Trp Gln Ala Ser Val Arg Arg Gln Gly Ala His Ile Cys
Ser Gly Ser Leu Val Ala Asp Thr Trp Val Leu Thr Ala Ala His Cys
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Gly Ser Leu Gln Arg Glu Gly Leu Ser Pro Gly Ala Glu Glu Val Gly
Val Ala Ala Leu Gln Leu Pro Arg Ala Tyr Asn His Tyr Ser Gln Gly
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Ser Asp Leu Ala Leu Leu Gln Leu Ala His Pro Thr His Thr Pro
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Leu Cys Leu Pro Gln Pro Ala His Arg Phe Pro Phe Gly Ala Ser Cys
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Leu	Gln 450	Thr	Val	Pro	Val	Thr 455	Leu	Leu	Gly	Pro	Arg 460	Ala	Cys	Ser	Arg
Leu 465	His	Ala	Ala	Pro	Gly 470	Gly	Asp	Gly	Ser	Pro 475	Ile	Leu	Pro	Gly	Met 480
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Ala Val Leu Thr Ala Ala His Cys Phe Ile Gly Arg Gln Ala Pro Glu 50 55 60

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Cys Val Ala Cys Gly Ser Leu Arg Thr Ala Gly Pro Gln Ala Gly Ala
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Pro Ser Pro Trp Pro Trp Glu Ala Arg Leu Met His Gln Gly Gln Leu
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His Cys Phe Ile Gly Arg Gln Ala Pro Glu Glu Trp Ser Val Gly Leu
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- Ala Gln Pro Val Thr Leu Gly Ala Ser Leu Arg Pro Leu Cys Leu Pro 195 200 205
- Tyr Pro Asp His His Leu Pro Asp Gly Glu Arg Gly Trp Val Leu Gly 210 215 220
- Arg Ala Arg Pro Gly Ala Gly Ile Ser Ser Leu Gln Thr Val Pro Val 225 230 235 240
- Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg Leu His Ala Ala Pro Gly
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- Glu Trp Ser Val Gly Leu Gly Thr Arg Pro Glu Glu Trp Gly Leu Lys
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Cys Pro Ser Ser Arg Pro Arg Leu Leu Trp Gln Thr Pro Thr Thr Gln 65 70 75 80

Thr Leu Pro Ser Thr Thr Met Glu Thr Gln Phe Pro Val Ser Glu Gly 85 90 95

Lys Val Asp Pro Tyr Arg Ser Cys Gly Phe Ser Tyr Glu Gln Asp Pro 100 105 110

Thr Leu Arg Asp Pro Glu Ala Val Ala Arg Arg Trp Pro Trp Met Val 115 120 125

Ser Val Arg Ala Asn Gly Thr His Ile Cys Ala Gly Thr Ile Ile Ala 130 135 140

Ser Gln Trp Val Leu Thr Val Ala His Cys Leu Ile Trp Arg Asp Val 145 150 155 160

Ile Tyr Ser Val Arg Val Gly Ser Pro Trp Ile Asp Gln Met Thr Gln 165 170 175

Thr Ala Ser Asp Val Pro Val Leu Gln Val Ile Met His Ser Arg Tyr 180 185 190

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Ile Cys Leu Pro Gly Thr Asp Tyr Val Leu Lys Asp His Ser Arg Cys

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Gln Leu Ser Ala Leu Glu Arg Arg Leu Ser Ala Cys Gly Ser Ala Cys

Gln Gly Thr Glu Gly Ser Thr Asp Leu Pro Leu Ala Pro Glu Ser Arg 90

Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu Lys Ala Gln 105

Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln Gln Gln Arg 120

His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln Ser Gln Phe 135

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Arg Arg Lys Arg Leu Pro Glu Met Ala Gln Pro Val Asp Pro Ala His 165

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Ser Pro Pro Phe Leu Val Asn Cys Lys Met Thr Ser Asp Gly Gly Trp 210 215 220

Thr Val Ile Gln Arg Arg His Asp Gly Ser Val Asp Phe Asn Arg Pro 225 230 235 240

Trp Glu Ala Tyr Lys Ala Gly Phe Gly Asp Pro His Gly Glu Phe Trp 245 250 255

Leu Gly Leu Glu Lys Val His Ser Ile Thr Gly Asp Arg Asn Ser Arg 260 265 270

Leu Ala Val Gln Leu Arg Asp Trp Asp Gly Asn Ala Glu Leu Gln 275 280 285

Phe Ser Val His Leu Gly Gly Glu Asp Thr Ala Tyr Ser Leu Gln Leu 290 295 300

Thr Ala Pro Val Ala Gly Gln Leu Gly Ala Thr Thr Val Pro Pro Ser 305 310 315 320

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Arg Asp Lys Asn Cys Ala Lys Ser Leu Ser Gly Gly Trp Trp Phe Gly 340 345 350

Thr Cys Ser His Ser Asn Leu Asn Gly Gln Tyr Phe Arg Ser Ile Pro 355 360 365

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- Gln Gly Thr Glu Gly Ser Thr Asp Leu Pro Leu Ala Pro Glu Ser Arg 85 90 95
- Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu Lys Ala Gln
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- His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln Ser Gln Phe 130 135 140
- Gly Leu Leu Asp His Lys His Leu Asp His Glu Val Ala Lys Pro Ala 145 150 155 160
- Arg Arg Lys Arg Leu Pro Glu Met Ala Gln Pro Val Asp Pro Ala His 165 170 175
- Asn Val Ser Arg Leu His Arg Leu Pro Arg Asp Cys Gln Glu Leu Phe
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- Gln Val Gly Glu Arg Gln Ser Gly Leu Phe Glu Ile Gln Pro Gln Gly 195 200 205
- Ser Pro Pro Phe Leu Val Asn Cys Lys Met Thr Ser Asp Gly Gly Trp 210 215 220

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230

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355

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Leu Ile Leu His Gly Ala Tyr Thr His Pro Glu Gly Gly Tyr Asp Met
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Ala Leu Leu Leu Ala Gln Pro Val Thr Leu Gly Ala Ser Leu Arg
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Pro Leu Cys Leu Pro Tyr Pro Asp His His Leu Pro Asp Gly Glu Arg
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Gln Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg Leu
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Trp Ser Val Gly Leu Gly Thr Arg Pro Glu Glu Trp Gly Leu Lys Gln
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Leu Ile Leu His Gly Ala Tyr Thr His Pro Glu Gly Gly Tyr Asp Met 65 70 75 80

Ala Leu Leu Leu Ala Gln Pro Val Thr Leu Gly Ala Ser Leu Arg 85 90 95

Pro Leu Cys Leu Pro Tyr Ala Asp His His Leu Pro Asp Gly Glu Arg 100 105 110

Gly Trp Val Leu Gly Arg Ala Arg Pro Gly Ala Gly Ile Ser Ser Leu 115 120

Gln Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg Leu 130 135 140

His Ala Ala Pro Gly Gly Asp Gly Ser Pro Ile Leu Pro Gly Met Val 145 150 155 160

Cys Thr Ser Ala Val Gly Glu Leu Pro Ser Cys Glu Gly Leu Ser Gly
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Ala Pro Leu Val His Glu Val Arg Gly Thr Trp Phe Leu Ala Gly Leu

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Gly Thr Trp Phe Leu Ala Gly Leu His Ser Phe Gly Asp Ala Cys Gln 45

Gly Pro Ala Arg Pro Ala Val Phe Thr Ala Leu Pro Ala Tyr Glu Asp
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Gly Thr Trp Phe Leu Ala Gly Leu His Ser Phe Gly Asp Ala Cys Gln
35 40 45

Gly Pro Ala Arg Pro Ala Val Phe Thr Ala Leu Pro Ala Tyr Glu Asp 50 55 60

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Thr	Tyr	Ala 35	Ile	Asn	Val	Ser	Leu 40	Met	Trp	Leu	Ser	Phe 45	Arg	Lys	Val
Gln	Glu 50	Pro	Gln	Gly	Lys	Ala 55	Lys	Arg	His	Gly	Asn 60	Thr	Val	Pro	Gly
Glu 65	Trp	Pro	Trp	Gln	Ala 70	Ser	Val	Arg	Arg	Gln 75	Gly	Ala	His	Ile	Суs 80
Ser	Gly	Ser	Leu	Val 85	Ala	Asp	Thr	Trp	Val 90	Leu	Thr	Ala	Ala	His 95	Cys
Phe	Glu	Lys	Ala 100	Ala	Ala	Thr	Glu	Leu 105	Asn	Ser	Trp	Ser	Val 110	Val	Leu
Gly	Ser	Leu 115	Gln	Arg	Glu	Gly	Leu 120	Ser	Pro	Gly	Ala	Glu 125	Glu	Val	Gly
Val	Ala 130	Ala	Leu	Gln	Leu	Pro 135	Arg	Ala -	туг	Asn	His 140	Tyr	Ser	Gln	Gly -
Ser 145	Asp	Leu	Ala	Leu	Leu 150	Gln	Leu	Ala	His	Pro 155	Thr	Thr	His	Thr	Pro 160
Leu	Cys	Leu	Pro	Gln 165	Pro	Ala	His	Arg	Phe 170	Pro	Phe	Gly	Ala	Ser 175	Cys
Trp	Ala	Thr	Gly 180		Asp	Gln	Asp	Thr 185	Ser	Asp	Ala	Pro	Gly 190	Thr	Leu
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Tyr	Asn 210	Gln	Leu	His	Gln	Arg 215	His	Leu	Ser	Asn	Pro 220	Ala	Arg	Pro	Gly
Met 225	Leu	Cys	Gly	Gly	Pro 230	Gln	Pro	Gly	Val	Gln 235	Gly	Pro	Cys	Gln	Gly 240
Asp	Ser	Gly	Gly	Pro 245	Val	Leu	Суз	Leu	Glu 250	Pro	Asp	Gly	His	Trp 255	Val
Gln	Ala	Gly	Ile 260	Ile	Ser	Phe	Ala	Ser 265	Ser	Cys	Ala	Gln	Glu 270	Asp	Ala
Pro	Val	Leu 275	Leu	Thr	Asn	Thr	Ala 280	Ala	His	Ser	Ser	Trp 285	Leu	Gln	Ala

Arg Val Gln Gly Ala Ala Phe Leu Ala Gln Ser Pro Glu Thr Pro Glu

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Ala	Val	Leu 355	Thr	Ala	Ala	His	Cys 360	Phe	Ile	Gly	Arg	Gln 365	Ala	Pro	Glu
Glu	Trp 370	Ser	Val	Gly	Leu	Gly 375	Thr	Arg	Pro	Glu	Glu 380	Trp	Gly	Leu	Lýs
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Arg	Gly	Trp 435	Val	Leu	Gly 	Arg	Ala 440	Arg	Pro	Gly 	Ala	Gly 445	Ile	Ser 	Ser
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Phe	Thr 530	Ala	Leu	Pro	Ala	Туг 535	Glu	Asp	Trp	Val	Ser 540	Ser	Leu	Asp	Trp
Gln 545	Val	Tyr	Phe	Ala	Glu 550	Glu	Pro	Glu	Pro	Glu 555	Ala	Glu	Pro	Gly	Ser 560
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Ala Val Leu Thr Ala Ala His Cys Phe Ile Gly Arg Gln Ala Pro Glu 50 55 60

Glu Trp Ser Val Gly Leu Gly Thr Arg Pro Glu Glu Trp Gly Leu Lys
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Gln Leu Ile Leu His Gly Ala Tyr Thr His Pro Glu Gly Gly Tyr Asp 85 90 95

Met Ala Leu Leu Leu Ala Gln Pro Val Thr Leu Gly Ala Ser Leu 100 105 110

Arg Pro Leu Cys Leu Pro Tyr Ala Asp His His Leu Pro Asp Gly Glu 115 120 125

Arg Gly Trp Val Leu Gly Arg Ala Arg Pro Gly Ala Gly Ile Ser Ser 130 135 140

Leu Gln Thr Val Pro Val Thr Leu Leu Gly Pro Arg Ala Cys Ser Arg 145 150 155 160

Leu His Ala Ala Pro Gly Gly Asp Gly Ser Pro Ile Leu Pro Gly Met
165 170 175

Val Cys Thr Ser Ala Val Gly Glu Leu Pro Ser Cys Glu Gly Leu Ser 180 185 190

Gly Ala Pro Leu Val His Glu Val Arg Gly Thr Trp Phe Leu Ala Gly 195 200 205

Leu His Ser Phe Gly Asp Ala Cys Gln Gly Pro Ala Arg Pro Ala Val 210 215 220

Phe Thr Ala Leu Pro Ala Tyr Glu Asp Trp Val Ser Ser Leu Asp Trp 225 230 235 240

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Cys Leu Ala Asn Ile Ser Gln Pro Thr Ser Cys 260 265

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Cys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Glu Asp Ala 35 40 45

Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg Leu Trp Asp Ser
50 55 60

His Val Cys Gly Val Ser Leu Leu Ser His Arg Trp Ala Leu Thr Ala 65 70 75 80

Ala His Cys Phe Glu Thr Tyr Ser Asp Leu Ser Asp Pro Ser Gly Trp 85 90 95

Met Val Gln Phe Gly Gln Leu Thr Ser Met Pro Ser Phe Trp Ser Leu 100 105 110

Gln Ala Tyr Tyr Thr Arg Tyr Phe Val Ser Asn Ile Tyr Leu Ser Pro 115 120 125

Arg Tyr Leu Gly Asn Ser Pro Tyr Asp Ile Ala Leu Val Lys Leu Ser 130 135 140

Ala Pro Val Thr Tyr Thr Lys His Ile Gln Pro Ile Cys Leu Gln Ala 145 150 155 160

Ser Thr Phe Glu Phe Glu Asn Arg Thr Asp Cys Trp Val Thr Gly Trp 165 170 175

Gly Tyr Ile Lys Glu Asp Glu Ala Leu Pro Ser Pro His Thr Leu Gln 180 185 190

Glu Val Gln Val Ala Ile Ile Asn Asn Ser Met Cys Asn His Leu Phe 195 200 205 ,

Leu Lys Tyr Ser Phe Arg Lys Asp Ile Phe Gly Asp Met Val Cys Ala 210 215 220

Gly Asn Ala Gln Gly Gly Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly 225 230 235 240

Pro Leu Ala Cys Asn Lys Asn Gly Leu Trp Tyr Gln Ile Gly Val Val 245 250 255

Ser Trp Gly Val Gly Cys Gly Arg Pro Asn Arg Pro Gly Val Tyr Thr 260 265 270

Asn Ile Ser His His Phe Glu Trp Ile Gln Lys Leu Met Ala Gln Ser 275 280 285

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Leu Trp Ala Leu Pro Leu Leu Gly Pro Val 305 310

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Ala Glu Ala Pro Cys Gly Val Ala Pro Gln Ala Arg Ile Thr Gly Gly
35 40 45

Ser Ser Ala Val Ala Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr 50 60

Glu Gly Val His Val Cys Gly Gly Ser Leu Val Ser Glu Gln Trp Val
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Leu Ser Ala Ala His Cys Phe Pro Ser Glu His His Lys Glu Ala Tyr 85 90 95

Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Tyr Ser Glu Asp Ala 100 105 110

Lys Val Ser Thr Leu Lys Asp Ile Ile Pro His Pro Ser Tyr Leu Gln 115 120 125

Glu Gly Ser Gln Gly Asp Ile Ala Leu Leu Gln Leu Ser Arg Pro Ile 130 135 140

Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val 165 170 175

Ala Pro Ser Val Ser Leu Leu Thr Pro Lys Pro Leu Gln Gln Leu Glu 180 185 190

Val Pro Leu Ile Ser Arg Glu Thr Cys Asn Cys Leu Tyr Asn Ile Asp 195 200 205

Ala Lys Pro Glu Glu Pro His Phe Val Gln Glu Asp Met Val Cys Ala 210 215 220

Gly Tyr Val Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly

240 235 230 225 Pro Leu Ser Cys Pro Val Glu Gly Leu Trp Tyr Leu Thr Gly Ile Val 250 245 Ser Trp Gly Asp Ala Cys Gly Ala Arg Asn Arg Pro Gly Val Tyr Thr Leu Ala Ser Ser Tyr Ala Ser Trp Ile Gln Ser Lys Val Thr Glu Leu Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Ser Asn Leu Cys Gly Ser His Leu Ala Phe Ser Ser Ala Pro Ala Gln Gly Leu 315 310 Leu Arg Pro Ile Leu Phe Leu Pro Leu Gly Leu Ala Leu Gly Leu Leu 330 325 Ser Pro Trp Leu Ser Glu His 340 <210> 126 <211> 69 <212> PRT <213> Unknown Organism <223> Description of Unknown Organism: Fibronectin C Protein Signature Sequence <220> <221> VARIANT <222> (1)..(4) <223> Wherein Xaa is any amino acid. <220> <221> VARIANT <222> (6)..(17) <223> Wherein Xaa is any amino acid. <220> <221> VARIANT <222> (19)..(51) <223> Wherein Xaa is any amino acid. <220> <221> VARIANT <222> (53)..(57) <223> Wherein Xaa is any amino acid. <220> <221> VARIANT <222> (59)..(69) <223> Wherein Xaa is any amino acid.

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